

**COPPER STATISTICS**  
**By Kenneth E. Porter and Daniel L. Edelstein**  
**[All values in metric tons (t) unless otherwise noted]**

Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Reported consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1900	291,000				28,000	154,000	76,000	166,000	166,000	357	7,000	495,000
1901	302,000				32,000	88,000	128,000	118,000	194,000	355	7,000	526,000
1902	317,000				51,000	161,000	71,000	265,000	264,000	256	4,800	555,000
1903	331,000				60,000	141,000	80,000	241,000	241,000	291	5,300	596,000
1904	404,000				65,000	257,000	43,000	248,000	249,000	282	5,100	660,000
1905	426,000				73,000	243,000	33,000	266,000	266,000	344	6,300	713,000
1906	489,000	12,000	11,000	7,000	13,000	203,000	21,000	318,000	323,000	425	7,700	724,000
1907	468,000	14,000	13,000	11,000	87,000	211,000	57,000	320,000	322,000	441	7,700	721,000
1908	516,000	6,000	5,000	4,000	72,000	300,000	55,000	294,000	296,000	291	5,300	744,000
1909	631,000	36,000	4,000	7,000	110,000	310,000	64,000	428,000	458,000	289	5,300	828,000
1910	645,000	59,000	27,000	14,000	118,000	319,000	56,000	466,000	511,000	284	5,000	858,000
1911	650,000	69,000	28,000	13,000	121,000	357,000	40,000	443,000	499,000	277	4,900	890,000
1912	711,000	97,000	28,000	13,000	139,000	352,000	48,000	504,000	587,000	363	6,200	1,000,000
1913	733,000	83,000	41,000	17,000	136,000	371,000	41,000	521,000	588,000	342	5,630	996,000
1914	696,000	71,000	36,000	48,000	91,000	381,000	79,000	416,000	439,000	293	4,760	938,000
1915	741,000	110,000	68,000	76,000	91,000	309,000	37,000	641,000	675,000	385	6,180	1,060,000
1916	1,030,000	159,000	159,000	115,000	4,000	325,000	58,000	797,000	847,000	627	9,360	1,420,000
1917	1,100,000	177,000	171,000	116,000	3,000	468,000	52,000	760,000	818,000	644	8,190	1,430,000
1918	1,100,000	160,000	160,000	80,000	17,000	313,000	111,000	877,000	905,000	544	5,890	1,430,000
1919	803,000	138,000	122,000	76,000	16,000	199,000	297,000	666,000	572,000	401	3,780	994,000
1920	692,000	153,000	130,000	88,000	49,000	250,000	299,000	375,000	642,000	386	3,140	959,000
1921	431,000	120,000	77,000	138,000	31,000	270,000	214,000	269,000	397,000	279	2,540	558,000
1922	569,000	184,000	121,000	103,000	47,000	296,000	103,000	514,000	615,000	299	2,900	884,000
1923	898,000	246,000	127,000	128,000	58,000	331,000	120,000	878,000	854,000	325	3,100	1,270,000
1924	1,030,000	241,000	111,000	128,000	66,000	458,000	110,000	740,000	889,000	293	2,790	1,360,000
1925	1,000,000	264,000	117,000	167,000	45,000	439,000	56,000	782,000	924,000	315	2,920	1,530,000
1926	1,050,000	306,000	129,000	182,000	77,000	388,000	66,000	968,000	1,040,000	310	2,840	1,510,000
1927	1,060,000	308,000	137,000	182,000	47,000	418,000	78,000	854,000	985,000	288	2,690	1,520,000
1928	1,130,000	332,000	155,000	209,000	38,000	431,000	52,000	971,000	1,100,000	327	3,110	1,730,000
1929	1,240,000	367,000	202,000	270,000	61,000	373,000	139,000	1,110,000	1,210,000	405	3,850	1,950,000
1930	978,000	310,000	113,000	222,000	39,000	269,000	279,000	830,000	918,000	292	2,860	1,610,000
1931	681,000	237,000	78,000	171,000	79,000	184,000	419,000	607,000	673,000	185	1,980	1,400,000
1932	309,000	164,000	61,000	127,000	76,000	101,000	455,000	376,000	412,000	128	1,520	909,000
1933	336,000	236,000	71,000	175,000	5,000	113,000	369,000	490,000	550,000	160	2,020	1,050,000
1934	404,000	282,000	60,000	200,000	25,000	238,000	435,000	502,000	407,000	191	2,330	1,280,000
1935	534,000	328,000	79,000	245,000	16,000	237,000	330,000	658,000	746,000	196	2,330	1,500,000
1936	746,000	347,000	92,000	237,000	4,000	200,000	230,000	845,000	997,000	214	2,520	1,720,000
1937	968,000	371,000	112,000	259,000	7,000	268,000	306,000	903,000	1,000,000	295	3,350	2,290,000
1938	719,000	242,000	84,000	175,000	2,000	336,000	292,000	557,000	641,000	225	2,610	1,990,000
1939	916,000	260,000	193,000	137,000	15,000	338,000	192,000	807,000	953,000	247	2,900	2,130,000
1940	1,190,000	303,000	180,000	155,000	62,000	323,000	172,000	1,090,000	1,250,000	254	2,960	2,400,000
1941	1,270,000	374,000	285,000	116,000	315,000	94,000	72,000	1,620,000	1,970,000	265	2,930	2,480,000
1942	1,280,000	387,000	454,000	101,000	364,000	119,000	226,000	1,620,000	1,760,000	265	2,650	2,590,000

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Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Reported consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1943	1,250,000	388,000	597,000	120,000	365,000	160,000	315,000	1,590,000	1,750,000	265	2,500	2,620,000
1944	1,110,000	414,000	448,000	87,000	447,000	62,000	489,000	1,570,000	1,740,000	265	2,450	2,460,000
1945	1,010,000	451,000	462,000	92,000	482,000	44,000	740,000	1,250,000	1,650,000	265	2,410	2,110,000
1946	797,000	369,000	360,000	106,000	140,000	48,000	284,000	1,030,000	1,710,000	310	2,580	1,780,000
1947	1,050,000	457,000	416,000	253,000	136,000	134,000	181,000	1,330,000	1,610,000	469	3,420	2,130,000
1948	1,010,000	459,000	424,000	233,000	226,000	129,000	136,000	1,290,000	1,610,000	492	3,320	2,210,000
1949	842,000	348,000	299,000	207,000	251,000	125,000	119,000	1,030,000	1,330,000	430	2,940	2,140,000
1950	1,130,000	440,000	446,000	187,000	292,000	131,000	508,000	1,290,000	1,340,000	476	3,210	2,380,000
1951	1,100,000	416,000	430,000	141,000	220,000	121,000	575,000	1,290,000	1,550,000	540	3,400	2,490,000
1952	1,070,000	376,000	443,000	130,000	315,000	158,000	561,000	1,340,000	1,620,000	540	3,310	2,570,000
1953	1,170,000	390,000	480,000	191,000	249,000	99,000	709,000	1,360,000	1,560,000	640	3,910	2,600,000
1954	1,100,000	369,000	393,000	187,000	195,000	196,000	854,000	1,140,000	1,320,000	660	4,000	2,640,000
1955	1,220,000	467,000	430,000	214,000	184,000	181,000	895,000	1,360,000	1,630,000	827	5,040	2,900,000
1956	1,310,000	425,000	419,000	237,000	174,000	202,000	1,010,000	1,380,000	1,640,000	926	5,540	3,200,000
1957	1,320,000	403,000	361,000	215,000	147,000	314,000	1,110,000	1,230,000	1,450,000	665	3,840	3,300,000
1958	1,230,000	373,000	350,000	188,000	113,000	349,000	1,170,000	1,140,000	1,310,000	580	3,280	3,190,000
1959	996,000	429,000	417,000	227,000	215,000	144,000	1,120,000	1,330,000	1,550,000	683	3,820	3,430,000
1960	1,380,000	390,000	401,000	265,000	155,000	394,000	1,200,000	1,230,000	1,450,000	713	3,920	3,940,000
1961	1,410,000	373,000	397,000	256,000	79,000	392,000	1,160,000	1,330,000	1,520,000	668	3,630	4,090,000
1962	1,460,000	377,000	459,000	263,000	118,000	305,000	1,170,000	1,450,000	1,640,000	683	3,670	4,220,000
1963	1,450,000	383,000	501,000	365,000	111,000	283,000	1,120,000	1,580,000	1,710,000	683	3,640	4,290,000
1964	1,500,000	430,000	562,000	318,000	103,000	287,000	1,080,000	1,660,000	1,780,000	713	3,750	4,450,000
1965	1,550,000	466,000	671,000	404,000	94,000	295,000	915,000	1,820,000	1,980,000	780	4,020	4,660,000
1966	1,550,000	485,000	725,000	446,000	71,000	248,000	559,000	2,140,000	2,220,000	794	3,990	4,580,000
1967	1,030,000	438,000	614,000	369,000	301,000	145,000	346,000	1,760,000	1,840,000	840	4,100	4,630,000
1968	1,300,000	472,000	633,000	378,000	366,000	218,000	361,000	1,710,000	1,910,000	908	4,260	5,010,000
1969	1,580,000	522,000	726,000	453,000	119,000	182,000	342,000	1,940,000	2,060,000	1,050	4,649	5,520,000
1970	1,600,000	457,000	675,000	464,000	120,000	201,000	501,000	1,850,000	1,820,000	1,280	5,375	5,900,000
1971	1,440,000	404,000	685,000	363,000	147,000	170,000	441,000	1,830,000	1,890,000	1,150	4,623	5,940,000
1972	1,700,000	416,000	765,000	384,000	157,000	166,000	407,000	2,030,000	2,140,000	1,130	4,420	6,540,000
1973	1,700,000	441,000	808,000	422,000	187,000	172,000	335,000	2,210,000	2,220,000	1,310	4,811	6,920,000
1974	1,500,000	439,000	781,000	451,000	276,000	115,000	300,000	1,990,000	2,150,000	1,700	5,631	7,100,000
1975	1,310,000	335,000	547,000	308,000	129,000	156,000	444,000	1,390,000	1,470,000	1,410	4,285	6,740,000
1976	1,400,000	380,000	659,000	340,000	346,000	102,000	541,000	1,810,000	1,920,000	1,530	4,393	7,260,000
1977	1,360,000	410,000	675,000	350,000	361,000	42,000	543,000	1,980,000	2,070,000	1,470	3,960	7,420,000
1978	1,450,000	502,000	746,000	420,000	403,000	83,000	435,000	2,190,000	2,370,000	1,450	3,625	7,280,000
1979	1,520,000	604,000	948,000	498,000	204,000	74,000	252,000	2,160,000	2,430,000	2,030	4,565	7,350,000
1980	1,220,000	613,000	824,000	515,000	427,000	14,000	314,000	1,860,000	2,180,000	2,230	4,419	7,200,000
1981	1,540,000	592,000	816,000	483,000	331,000	24,000	485,000	2,030,000	2,270,000	1,860	3,328	7,690,000
1982	1,230,000	518,000	670,000	468,000	258,000	31,000	695,000	1,660,000	1,760,000	1,600	2,711	7,580,000
1983	1,210,000	449,000	634,000	402,000	460,000	81,000	692,000	1,800,000	2,010,000	1,690	2,761	7,610,000
1984	1,170,000	461,000	659,000	307,000	445,000	91,000	568,000	2,120,000	2,120,000	1,470	2,313	7,810,000
1985	1,060,000	503,000	636,000	372,000	378,000	38,000	320,000	1,980,000	2,140,000	1,480	2,238	7,990,000

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Year	Primary production	Secondary production	New scrap	Refinery scrap	Imports	Exports	Stocks	Reported consumption	Apparent consumption	Unit value (\$/t)	Unit value (98\$/t)	World production
1986	1,070,000	477,000	649,000	406,000	502,000	12,000	225,000	2,100,000	2,140,000	1,460	2,165	7,940,000
1987	W	498,000	716,000	415,000	469,000	9,000	113,000	2,130,000	2,200,000	1,820	2,609	8,240,000
1988	1,410,000	518,000	789,000	446,000	333,000	58,000	97,000	2,210,000	2,210,000	2,660	3,662	8,720,000
1989	1,480,000	548,000	761,000	480,000	300,000	130,000	107,000	2,200,000	2,180,000	2,890	3,797	9,040,000
1990	1,580,000	536,000	775,000	441,000	262,000	211,000	101,000	2,150,000	2,170,000	2,710	3,383	9,200,000
1991	1,580,000	533,000	667,000	418,000	289,000	271,000	132,000	2,050,000	2,090,000	2,410	2,885	9,330,000
1992	1,710,000	554,000	722,000	433,000	289,000	177,000	205,000	2,180,000	2,310,000	2,370	2,751	9,470,000
1993	1,790,000	543,000	748,000	460,000	343,000	217,000	153,000	2,360,000	2,510,000	2,020	2,278	9,490,000
1994	1,840,000	500,000	827,000	392,000	470,000	157,000	119,000	2,680,000	2,680,000	2,450	2,692	9,500,000
1995	1,930,000	442,000	874,000	352,000	429,000	217,000	163,000	2,530,000	2,540,000	3,050	3,262	10,000,000
1996	2,010,000	428,000	891,000	345,000	543,000	169,000	146,000	2,610,000	2,860,000	2,400	2,498	11,000,000
1997	2,060,000	498,000	967,000	383,000	632,000	93,000	314,000	2,790,000	2,950,000	2,360	2,395	11,400,000
1998	2,090,000	466,000	956,000	336,000	725,000	86,000	532,000	2,890,000	3,020,000	1,730	1,734	12,200,000
1999	1,890,000	381,000	950,000	240,000	915,000	25,000	564,000	2,990,000	3,130,000	1,670	1,633	12,600,000
2000	1,610,000	360,000		210,000	970,000	110,000	280,000	3,000,000	3,120,000	1,960	1,872	12,900,000

# Copper Worksheet Notes

## Data Sources

The sources of data for the copper worksheet are the mineral statistics publications of the U.S. Bureau of Mines and the U.S. Geological Survey—Minerals Yearbook (MYB) and its predecessor, Mineral Resources of the United States (MR); and Mineral Commodity Summaries (MCS) and its predecessor, Commodity Data Summaries (CDS). Metal price data were from Metal Prices in the United States Through 1998 (MP98). The years of publication and corresponding years of data coverage are listed in the References section below. Blank cells in the worksheet indicate data were not available.

## Primary Production

Primary U.S. copper production data report the amount of refined copper produced from ore, concentrate, or precipitate. This includes copper recovered from primary domestic sources as well as copper recovered from imported blister anodes, concentrates and ores that are further processed in domestic facilities to a refined form. Also included with primary copper production is copper recovered as cathodes from the solvent extraction-electrowinning process associated with dump, heap or roast-leach operations. Currently, all primary refined copper is recovered as electrolytic cathode, though historically the fire-refined shapes were produced. All primary production data were reported in the MR and the MYB. The estimate for primary copper production for 1987 is withheld because data for foreign material processed in domestic refineries to produce refined copper is proprietary.

## Secondary Production

U.S. copper production data reported as secondary production are the amounts of refined copper recovered from “old scrap.” “Old scrap” refers to obsolete or discarded end-use items that are recycled. “Old scrap” may be processed into refined copper or as a supplement in the production of castings, mill products, chemicals, and other products. “New scrap” includes material recycled by manufacturing facilities and constitutes scrap generated by the manufacturing process and has not been placed into service yet. Refinery scrap is “old scrap” that has been recycled through the refining process to a refined copper form and is a part of the overall old scrap. Blank cells in the worksheet for the years 1900–05 indicate that data were not available for those years.

## Imports

Import data reported in the MYB are the amounts of refined copper imported into the United States in various shapes and forms. Import data exclude all semi-fabricated and manufactured copper products. From 1900–33 imports are general imports. Imports from 1934–79 that include copper imported for immediate consumption plus material entering the country under bond are comparable to general imports. Beginning in the 1981 MYB, Import table revised in MYB starting in 1981 to show imports for “consumption only” rather than “general imports.”

## Exports

Export data reported in the MYB are the amounts of refined copper exported from the United States in various shapes and forms. Export data exclude all semi-fabricated and manufactured copper products.

## Stocks

Stocks are the sum of available data on refined copper held by producers, consumers, government, and commodity exchange warehouses as of December 31 of each year and reported in the MR and the MYB. For the years 1900–33, reported data includes only producer stocks of refined copper. Producer, in this context, include copper smelters and refineries. For the years 1934–54, stock data is the sum of producer stocks of refined copper and wire mill stocks of refined copper, with the latter data supplied by the copper commodity specialist from data obtained from the MYB. Data on stocks of refined copper for industry and government from 1955 through 1989 were from “U.S. Refined Copper Inventories, End of Year” table in the 1990 MYB. This table also includes government stockpile inventories at the end of each year back to 1955. Beginning in 1975, the MYB reported data on stocks of refined copper at brass mills, wire rod mills, other manufacturers, and the New York Commodities Exchange (NYCOMEX), in addition to primary producers. London Metal Exchange stocks in U.S. warehouses started reporting in the “Salient Copper Statistics” table in the 1995 MYB.

## Reported Consumption

Reported consumption is defined as the “refined copper consumed by class of consumer” in the United States. This category has been referred to as “use” in the MYB and the MR.

## Apparent Consumption

The apparent consumption of copper in the United States for the years 1900–54 was calculated using the following equation:

$$\text{APPARENT CONSUMPTION} = \text{PRIMARY PRODUCTION} + \text{SECONDARY PRODUCTION} \\ + \text{IMPORTS} - \text{EXPORTS} + \text{BEGINNING STOCKS} - \text{ENDING STOCKS}$$

All components of this equation refer to refined copper only. Primary production is for copper recovered from both domestic and foreign ores and concentrates. Secondary production is for copper recovered from old scrap only. All stock estimates are for the end

of the calendar year so beginning stocks are defined as the previous year stock estimate and ending stocks are defined as the current year stock estimate. Estimates for apparent consumption for the years 1955–2000 are from the MYB.

#### **Unit Value (\$/t)**

Unit value is the value in actual US dollars of 1 metric ton (t) of copper apparent consumption. Unit value is estimated from the “Annual Average U.S. Producer Copper Price” as reported in the MP98.

#### **Unit Value (98\$/t)**

Unit value in 1998 dollars is calculated by dividing the unit value by the Consumer Price Index conversion factor adjusted to 1998 dollars.

#### **World Production**

World mine production is based on a compilation of available country data published in the MR and the MYB and generally reflects the copper content of concentrates, precipitates and electrowon copper. For some countries, including the United States, recoverable copper content is used. For countries, such as Chile, data reflects the non-duplicative total of primary copper products such as concentrate, blister, and cathode, accounting for Chilean trade. This data set was originally derived from the MYB and MR series, but data for the years 1940–85, may contain revisions to specific countries that reflect new understandings of production, especially for the former Soviet Union as reported by Strishkov (1984, p. 8).

#### **References**

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